

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with interconnect at the intersection of MD 189 (Falls Rd) and Falls Chapel Way / Tuckerman Lane in Montgomery County. The pedestrian signals shall be upgraded to Countdown pedestrian signals with audible pushbuttons shall be installed at this location. MD 189 (Falls Rd) is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

- The intersection shall continue to operate in a NEMA eight-phase, semi-actuated mode, with the MD 189 (Falls Rd) approaches running concurrently. The Exclusive/Permissive left turn phases shall continue to be provided for both approaches of MD 189 (Falls Rd). The pedestrian phase across the north leg of MD 189 (Falls Rd) shall now be a Countdown pedestrian phase with audible pushbutton actuation. The pedestrian phases across Falls Chapel Way / Tuckerman Lane approaches on recall shall now be Countdown pedestrian phases with audible pushbuttons. Farside sampling stations on both legs MD 189 (Falls Rd) shall remain in operation at this intersection. The Exclusive/Permissive left turn phases for the Falls Chapel Way / Tuckerman Lane shall continue to be provided. The Falls Chapel Way / Tuckerman Lane approaches shall also continue to run concurrently.
- The existing full-traffic-actuated, eight-phase controller with video interface L.A.U. and L.A.U. Panel and all necessary equipment housed in a NEMA size 6" base-mounted cabinet shall be utilized at this intersection.
- Montgomery County signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the SHA Signal Shop for testing and programming.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables to the appropriate terminals and shall properly label each cable.
- All controller cabinet wiring will be performed by Montgomery County Forces. Contact Kamal Hamud at (240) 777-8761 seventy-two hours in advance of intended work.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.
- APS will function as follows:
FOR MD 189 (FALLS RD)
a. When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross Falls at Falls Chapel and Tuckerman."
b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.
FOR FALLS CHAPEL WAY
a. When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross Falls Chapel at Falls."
b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.
FOR TUCKERMAN LANE
a. When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross Tuckerman at Falls, crosswalk angles left."
b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

The contact persons for District #3 (Montgomery County) are as follows:

Mr. Brian Young Assistant District Engineer - Traffic Phone: (301) 513-7318	Mr. Richard L. Daff, Sr. Chief, Traffic Operations Division Phone: (410) 787-7630
Mr. Vernon Stinnett Assistant District Engineer - Maintenance Phone: (301) 513-7304	Mr. Ed Rodenhizer Manager, Signal Operations Section 410-787-7652
Mr. Augie Rebish Assistant District Engineer - Utility Phone: (301) 513-7350	Sonny Bailey Manager, Sign Shop Operations 410-787-7676

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	QUANTITY
8088	W16-7p ARROW SYMBOL, sign (24"x12") ground mounted. (Left)	2 Each
8088	S1-1 "SCHOOL SYMBOL", sign (36"x36") ground mounted.	2 Each
	R1-2 (mod) "YIELD / TO BIKES/PEDS IN CROSSWALK", sign (30"x40") ground mounted.	2 Each
8088	R9-5(mod) "Bike (symbol) USE / PED SIGNAL" sign, (12" x 18") ground mounted with hardware.	2 Each
	Pedestrian pushbutton and pedestrian education R10-3(1) sign. (Note: Sign to read "PUSH BUTTON TO CROSS FALLS ROAD")	2 Each
	Pedestrian pushbutton and pedestrian education R10-3(1) sign. (Note: Sign to read "PUSH BUTTON TO CROSS TUCKERMAN LANE")	2 Each
	Pedestrian pushbutton and pedestrian education R10-3(1) sign. (Note: Sign to read "PUSH BUTTON TO CROSS FALLS CHAPEL WAY")	2 Each

EQUIPMENT LIST (cont)

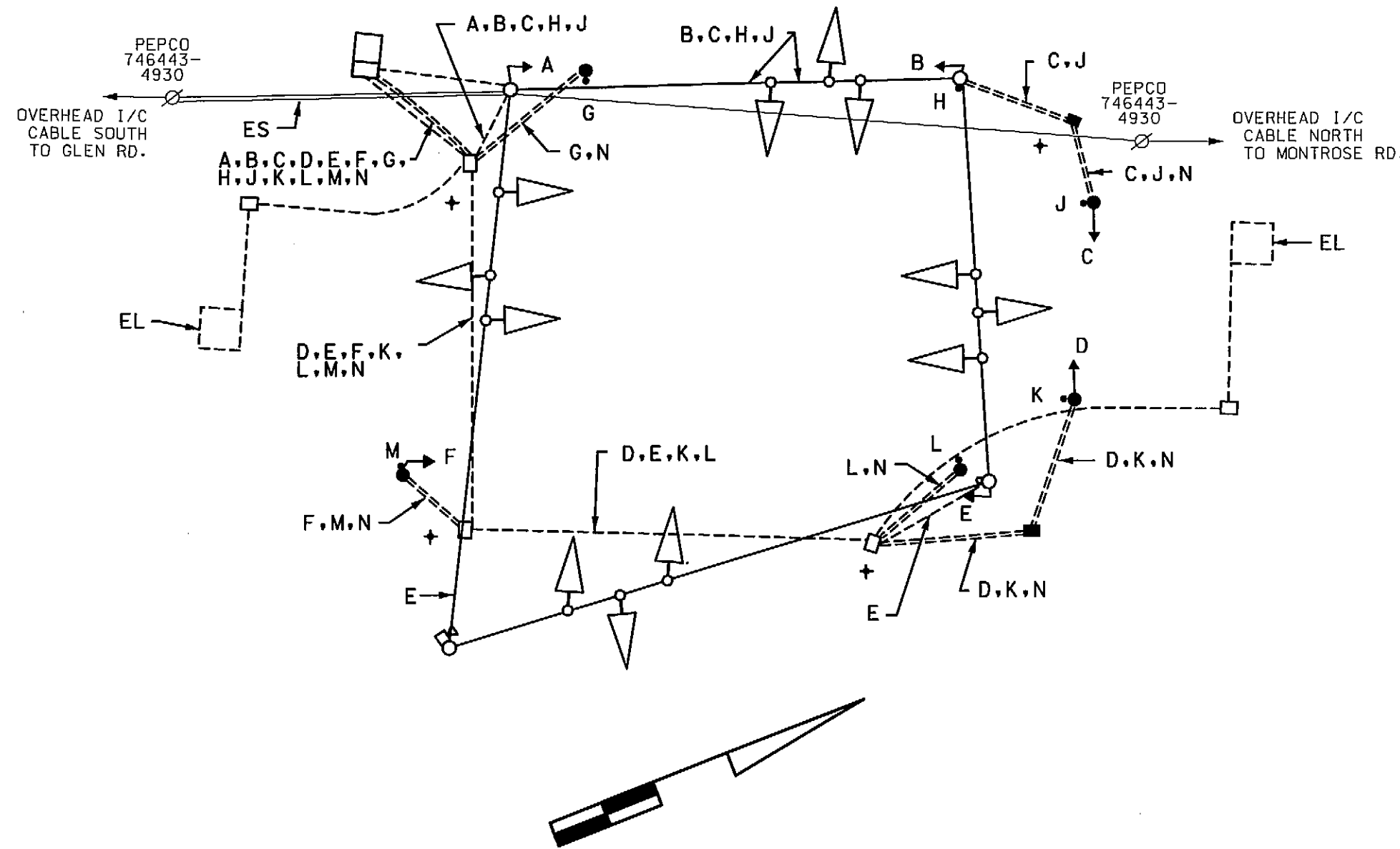
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of Traffic	2 Day
2002	Test pit excavation.	5 C.Y.
8001	Concrete foundation.	2.5 C.Y.
8023	3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).	120 L.F.
8027	4" polyvinyl chloride electrical conduit (Schedule 80) (trenched).	15 L.F.
8043	Ground rod, 3/4" diameter x 10' length with clamp.	3 Each
8064	2-conductor electrical cable (No. 14 A.W.G.).	910 L.F.
8066	5-conductor electrical cable (No. 14 A.W.G.).	930 L.F.
8075	1-conductor electrical cable (No. 6 A.W.G.) stranded bare copper ground wire.	225 L.F.
8136	Traffic signal handbox (pullbox).	2 Each
8153	Removal and salvage of signs less than 50 S.F.	11 Each
8167	Removal and salvage of any signal head.	6 Each
Neg.	Remove existing pavement markings.	820 L.F.
Neg.	12" white heat applied permanent preformed thermoplastic pavement marking.	365 L.F.
Neg.	24" white heat applied permanent preformed thermoplastic pavement marking.	50 L.F.
	10' breakaway pedestal pole with transformer base.	3 EA
	5' breakaway pedestal pole with transformer base.	2 EA
Neg.	Furnish and install 16" LED Countdown pedestrian signal head.	6 Each
	Tubular steel post	2 EA
	2 wire Central Control unit	1 EA
	Audible/tactile pedestrian pushbutton station & signs.	6 EA

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 1 & 5	←G-/R	←G-/R	R	←G-/R	←G-/R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 1 & 6, 2 & 5 OR 2 & 6																		
PHASE 1 & 6	←G-/G	←G-/G	G	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
1 & 6 CHANGE	←Y-/G	←Y-/G	G	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW
PHASE 2 & 5	R	R	R	←G-/G	←G-/G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
2 & 5 CHANGE	R	R	R	←Y-/G	←Y-/G	G	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEAR / COUNTDOWN	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3 & 7	R	R	R	R	R	R	←G-/R	←G-/R	R	←G-/R	←G-/R	R	DW	DW	DW	DW	DW	DW
CHANGES TO PHASES 3 & 8, 4 & 7 OR 4 & 8																		
PHASE 3 & 8	R	R	R	R	R	R	←G-/G	←G-/G	G	R	R	R	DW	DW	DW	DW	DW	DW
3 & 8 CHANGE	R	R	R	R	R	R	←Y-/G	←Y-/G	G	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 & 7	R	R	R	R	R	R	R	R	←G-/G	←G-/G	G	DW	DW	DW	DW	DW	DW	DW
4 & 7 CHANGE	R	R	R	R	R	R	R	R	←Y-/G	←Y-/G	G	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 & 7 ALT	R	R	R	R	R	R	R	R	←G-/G	←G-/G	G	DW	DW	DW	DW	WK	WK	WK
4 & 7 CHANGE ALT	R	R	R	R	R	R	R	R	←Y-/G	←Y-/G	G	DW	DW	DW	DW	WK	WK	WK
PHASE 4 & 8 ALT	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEAR / COUNTDOWN	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

- 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)**
- 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)**
- N - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)**
- EL - LOOP WIRE (NO. 14 A.W.G.) EXISTING**
- ES - EXISTING OVERHEAD SERVICE TO BE MAINTAINED BY PEPCO**
- + - GROUND ROD**

REVISION E

STREET TRAFFIC STUDIES, LTD.

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SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 189 (FALLS ROAD) AND FALLS CHAPEL WAY / TUCKERMAN LANE

ROCKVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 11/30/09 CONTRACT NO.

DESIGNED BY RRZ COUNTY MONTGOMERY
DRAWN BY RC LOGMILE 15018904.68
CHECKED BY 12/09 TMS NO. 1807
F.A.P. NO. TOD NO. MD17-06

TS NO.1569E DRAWING NO. 2 OF 2 SHEET NO. OF